

AMENDMENTS TO THE CLAIMS:

Complete Listing of Claims

Claim 1 & 2. (canceled)

Claim 3. (currently amended) An electricity meter electrical circuit comprising:

- a. a plurality of gain stages for amplifying an input signal that is proportional to electricity usage to create a plurality of amplified electricity usage signals;
- b. an A/D converter for converting the plurality of amplified electricity usage signals into a block of digital samples for each of the plurality of amplified electricity usage signals; and
- c. a comparison circuit for analyzing the block of digital samples and determining which block of digital samples most accurately represents the input signal. ~~The circuit of claim 1~~

wherein the plurality of gains stages comprise a first and second gain stage, wherein the first stage amplifies the signal times two, and the second amplifies the output of the first stage times 4.

Claim 4. (canceled)

Claim 5. (currently amended) An electricity meter electrical circuit comprising:

- a. a plurality of gain stages for amplifying an input signal that is proportional to electricity usage to create a plurality of amplified electricity usage signals;
- b. an A/D converter for converting the plurality of amplified electricity usage signals into a block of digital samples for each of the plurality of amplified electricity usage signals;
- c. a comparison circuit for analyzing the block of digital samples and determining which block of digital samples most accurately represents the input signal; and ~~The circuit of claim 1 further comprising~~
- d. a voltage bias circuit to lift the input signal voltage into a positive varying input.

Claim 6 & 7. (canceled)

8. (currently amended) An electricity meter electrical circuit comprising:
- a. a micro-processor/micro-controller;
 - b. a plurality of gain stages for amplifying an input current signal that is proportional to electricity usage to create a plurality of amplified electricity usage signals;
 - c. an A/D converter for converting the plurality of amplified electricity usage signals into a block of digital samples for each of the plurality of amplified electricity usage signals;
 - d. a comparison circuit in the micro-processor/micro-controller to determine which block of digital samples most accurately represents the input signal; and ~~The circuit of claim 6~~

wherein the plurality of gains stages comprise a first and second gain stage, wherein the first stage amplifies the signal times two, and the second amplifies the output of the first stage times 4.

Claim 9. (canceled)

10. An electricity meter electrical circuit comprising:
- a. a micro-processor/micro-controller;
 - b. a plurality of gain stages for amplifying an input current signal that is proportional to electricity usage to create a plurality of amplified electricity usage signals;
 - c. an A/D converter for converting the plurality of amplified electricity usage signals into a block of digital samples for each of the plurality of amplified electricity usage signals;
 - d. a comparison circuit in the micro-processor/micro-controller to determine which block of digital samples most accurately represents the input signal; and ~~The circuit of claim 6 further comprising~~
 - e. a voltage bias circuit to lift the input signal voltage into a positive varying input.

Claims 11 & 12. (canceled)